

## CLAIMS

1. A dynamoelectric machine comprising:
  - a case having a suction aperture for sucking in air and a discharge aperture for discharging said air;
  - a rotor including:
    - a rotor coil disposed so as to be fixed to a shaft inside said case, said rotor coil generating magnetic flux on passage of electric current; and
    - a Lundell pole core disposed so as to cover said rotor coil, said pole core having a plurality of claw-shaped magnetic poles that are magnetized by said magnetic flux;
  - a stator including:
    - a stator core disposed so as to surround said rotor; and
    - a stator coil formed by winding a conducting wire into slots extending axially on said stator core;
  - a fan rotating together with said rotor, said fan directing said air from said suction aperture into said case, blowing said air centrifugally, and discharging said air externally through said discharge aperture,
  - said pole core being constituted by a first pole core body and a second pole core body in which said claw-shaped magnetic poles intermesh with each other alternately,
  - wherein:
    - said fan has a blade including an interposed portion extending axially from an end surface of said pole core between an adjacent pair of said claw-shaped magnetic poles.
2. The dynamoelectric machine according to Claim 1, wherein:
  - said stator coil is wound into a distributed winding in which said conducting wire is disposed in an orderly manner inside said slots at intervals of a predetermined number of slots.
3. The dynamoelectric machine according to either of Claims 1 or 2, wherein:
  - a coil end is formed in said stator coil by folding said conducting wire over outside an end surface of said stator core; and
  - a space is formed in said coil end above said end surface by said

conducting wire having straight portions projecting axially outward from said end surface.

4. The dynamoelectric machine according to any one of Claims 1 through 3, wherein:

said interposed portion of said blade projects toward one of said claw-shaped magnetic poles in said adjacent pair of claw-shaped magnetic poles.

5. The dynamoelectric machine according to any one of Claims 1 through 3, wherein:

said interposed portion of said blade is bent at a bent portion so as to have an angular shape when viewed radially.

6. The dynamoelectric machine according to Claim 3, wherein:

said interposed portion of said blade is bent at a bent portion so as to have an angular shape when viewed radially; and

said bent portion is disposed radially opposite said space.

7. The dynamoelectric machine according to any one of Claims 1 through 6, wherein:

said fan is formed by bending a flat plate.

8. The dynamoelectric machine according to any one of Claims 1 through 7, wherein:

said fan is made of iron; and

a distance between said interposed portion and said adjacent pair of claw-shaped magnetic poles is greater than a distance between an inner peripheral surface of said stator core and an outer peripheral surface of said rotor.

9. The dynamoelectric machine according to any one of Claims 1 through 7, wherein:

said fan is constituted by a nonmagnetic material.

10. The dynamoelectric machine according to any one of Claims 1 through

9, wherein:

blades of said fan are disposed at a nonuniform pitch circumferentially;  
and

a blade disposed between an adjacent pair of said claw-shaped magnetic poles has said interposed portion.

11. The dynamoelectric machine according to any one of Claims 1 through 10, wherein:

said fan is fixed only to an end surface of said pole core near a rectifier for converting alternating current generated in said stator into direct current.